

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. – 10. (Cancelled)

11. (New) A method of controlling drilling fluid pressure during drilling offshore, comprising:

flowing drilling fluid down into a borehole in a sea bed beneath a body of water;

flowing drilling fluid back out of the borehole and into a conduit, wherein the conduit also contains a volume of riser fluid, wherein the riser fluid has a different density than the drilling fluid, and wherein the volume of the riser fluid is located above the drilling fluid starting at a demarcation zone between the two fluids in the conduit; and

regulating a distance between a first level and the demarcation zone while flowing drilling fluid into the borehole and out of the borehole and into the conduit.

12. (New) The method of claim 11, further comprising:

removing drilling fluid from the conduit utilizing a pump with an inlet in fluid communication with the conduit; and

regulating a pressure of the drilling fluid at the inlet to regulate the distance between the first level and the demarcation zone.

13. (New) The method of claim 12, further comprising regulating the pressure at the inlet to be substantially constant.

14. (New) The method of claim 13, further comprising regulating the pressure at the inlet to be substantially constant so that the distance between the first level and the demarcation zone is substantially constant.

15. (New) A method of drilling offshore, comprising:

generating drill cuttings inside a borehole; and

executing claim 11 to transport the drill cuttings out of the borehole with the drilling fluid.

16. (New) The method of claim 11, further comprising:

removing drilling fluid from the conduit utilizing a pump with an inlet in fluid communication with the conduit; and

controlling drilling fluid pressure of the drilling fluid in the conduit at the first level by controlling the pressure of the drilling fluid at the inlet.

17. (New) The method of claim 11, further comprising:

removing drilling fluid from the conduit; and

controlling drilling fluid pressure of the drilling fluid in the conduit at the first level by controlling the pressure of drilling fluid removed from the conduit.

18. (New) The method of claim 11, further comprising:

monitoring a quantity of riser fluid flowing into and out of the conduit.

19. (New) The method of claim 11, further comprising comparing a quantity of drilling fluid and riser fluid flowing into and out of the conduit with a quantity of drilling fluid flowing into the borehole.

20. (New) The method of claim 11, wherein the riser fluid has a lower density than the drilling fluid.

21. (New) The method of claim 11, further comprising:

removing drilling fluid from the conduit with a pump by pumping drilling fluid from the conduit through an inlet of the pump; and

regulating the distance between the first level and the demarcation zone by regulating pressure at the inlet of the pump.

22. (New) The method of claim 21, further comprising:

decreasing the distance between the first level and the demarcation zone by lowering the pressure at the inlet of the pump.

23. (New) The method of claim 21, further comprising:

raising the pressure at the inlet of the pump to increase the distance between the first level and the demarcation zone.

24. (New) A method of producing petroleum, comprising:

executing claim 11;

drilling into the sea bed for petroleum; and

producing petroleum.

25. (New) A method of producing petroleum, comprising:

executing claim 12;

drilling into the sea bed for petroleum; and
producing petroleum.

26. (New) A method of producing petroleum, comprising:

executing claim 13;

drilling into the sea bed for petroleum; and

producing petroleum.

27. (New) A method of producing petroleum, comprising:

executing claim 14;

drilling into the sea bed for petroleum; and

producing petroleum.

28. (New) A method of producing petroleum, comprising:

executing claim 15;

drilling into the sea bed for petroleum; and

producing petroleum.

29. (New) A method of producing petroleum, comprising:

executing claim 16;

drilling into the sea bed for petroleum; and

producing petroleum.

30. (New) A method of producing petroleum, comprising:

executing claim 17;

drilling into the sea bed for petroleum; and

producing petroleum.

31. (New) A method of producing petroleum, comprising:

executing claim 18;

drilling into the sea bed for petroleum; and

producing petroleum.

32. (New) A method of producing petroleum, comprising:

executing claim 19;

drilling into the sea bed for petroleum; and

producing petroleum.

33. (New) A method of producing petroleum, comprising:

executing claim 20;

drilling into the sea bed for petroleum; and

producing petroleum.

34. (New) A method of producing petroleum, comprising:

executing claim 21;

drilling into the sea bed for petroleum; and

producing petroleum.

35. (New) A method of producing petroleum, comprising:

executing claim 22;

drilling into the sea bed for petroleum; and

producing petroleum.

36. (New) A method of producing petroleum, comprising:

executing claim 23;

drilling into the sea bed for petroleum; and

producing petroleum.

37. (New) A device for controlling drilling fluid pressure during drilling offshore, comprising:

a drilling device in a bore hole in a sea floor beneath a body of water;

a drill string;

a first pump in fluid communication with the drill string, the first pump and the drill string being adapted to direct drilling fluid downward towards the drilling device and into the bore hole when the drilling device is located in the borehole;

an elongated annulus adapted to direct the drilling fluid, after it has been directed towards the drilling device and into the bore hole, upward away from the drilling device;

a second pump including a pump inlet, the second pump being in fluid communication with the annulus at an annulus outlet, the second pump being adapted to pump drilling fluid out of the annulus after the drilling fluid has been directed upward away from the drilling device, the second pump and annulus outlet being proximate the sea floor;

wherein the elongated annulus contains drilling fluid extending to a first level above the annulus outlet,

wherein the elongated annulus contains riser fluid extending upward from the first level above the annulus outlet, and

wherein the device is adapted to maintain the first level at a constant distance from the sea floor while drilling fluid is pumped out of the annulus.

38. (New) The device according to claim 37, wherein the second pump is adapted to pump the drilling fluid out of the annulus under a controlled pressure of the drilling fluid with respect to the pump inlet.

39. (New) The device according to claim 38, wherein the second pump is adapted to pump the drilling fluid out of the annulus while varying the pressure with respect to the pump inlet.

40. (New) The device according to claim 37, wherein the device is adapted to maintain the first level at a constant distance from the sea floor while drilling fluid is pumped out of the annulus by regulating the pressure of the drilling fluid with respect to the pump inlet.

41. (New) The device according to claim 37, wherein the device is adapted to move the first level to a smaller and greater distance from the sea floor while drilling fluid is pumped out of the annulus by respectively lowering and raising the pressure of the drilling fluid with respect to the pump inlet.

42. (New) A method of controlling drilling fluid pressure during drilling offshore, comprising:

flowing drilling fluid down into a borehole in a sea bed beneath a body of water;

flowing drilling fluid back out of the borehole and into a conduit, wherein the conduit also contains a volume of riser fluid, wherein the riser fluid is different than the drilling fluid, and wherein the volume of the riser fluid is located above the drilling fluid starting at a demarcation zone between the two fluids in the conduit; and

regulating a distance between a first level and the demarcation zone while flowing drilling fluid into the borehole and out of the borehole and into the conduit, wherein the first level is at an outlet of the conduit through which the drilling fluid is extracted from the conduit.

43. (New) The method of claim 42, further comprising:

removing the drilling fluid from the conduit through the outlet utilizing a pump with an inlet in fluid communication with the outlet; and

regulating a pressure of the drilling fluid at the inlet to regulate the distance between the first level and the demarcation zone.

44. (New) A method of producing petroleum, comprising:

executing claim 42;

drilling into the sea bed for petroleum; and

producing petroleum.

45. (New) The method of claim 11, wherein the first level is about at a level of the sea bed.